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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/488,351

01/20/2000

Terry L. Cole

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4297

23720

7590

01/29/2004

WILLIAMS, MORGAN & AMERSON, P.C.
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HOUSTON, TX 77042

EXAMINER

AHN, SAM K

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/488,351

Applicant(s)

COLE, TERRY L.

Examiner

Sam K. Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment, received on 11/7/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6, 11-17, 21-25 and 28-34 is/are rejected.
- 7) ☒ Claim(s) 7-10, 18-20, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-34 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 12-20 and 31 objected to because of the following informalities:

In claim 12, line 5, the Office suggests replacing "--- capable of: ---" with "---capable of ---", wherein claims 13-20 and 31 directly or indirectly depend on claim 12.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 2, 3, 5, 6, 11-14, 17, 21-25, 28, 29 and 33 are rejected under 35

U.S.C. 102(e) as being anticipated by Wiese et al. (Wiese).

Regarding claims 2, 12, 21, 28 and 33, Wiese discloses a method and apparatus comprising establishing a communication channel between a first transceiver and a second transceiver in low power mode. (note col.6, lines 16-33) Wiese teaches transmission of an initialization signal at a lower power level or in a low power mode, and increasing the power level until the signal is received by the other transceiver. Wiese further discloses determining a training parameter (such as variable gain amplifier adjustment) in response to establishing the communication channel in the low power mode, (note col.7, lines 38-52) then performing training in response to determining the training parameter (note col.7, lines 47-52) And, providing the training parameter to the second transceiver (remote unit). (note col.7, lines 53-61)

Regarding claim 13, Wiese teaches all subject matter claimed, as applied to claim 12. Wiese further teaches transmitting and receiving data with the transceiver (VTU-R). (see Fig.5)

Regarding claims 3, 14, 24, 29, Wiese teaches all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches wherein transmission of remote initialization signal at a relatively low power level and incrementing until the signal is detected. (note col.6, lines 16-30) Therefore, it is inherent that the increment

of level of power taught by Wiese is the smallest amount of power acceptable, since the signal is acceptable only after it has been detected.

Regarding claims 5, 6, 16, 17, 25, Wiese teaches all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches computation of signal to noise ratio for determining the training parameter. (note claim 10) Signal to noise ratio includes determination of phase and amplitude distortion, and therefore it is inherent that the training parameters include determining phase and amplitude distortion of the communication channel.

Regarding claim 11, Wiese teaches all subject matter claimed, as applied to claim 2. Wiese further teaches providing a training parameter to the first transceiver by the second transceiver. (see 239, 243 in Fig.5 and note col.9, lines 20-36)

Regarding claims 22, 23, Wiese teaches all subject matter claimed, as applied to claim 21. Wiese further teaches that the first and second transceiver is a DSL modem. (see Fig.1a where the remote (R1~RN and O1~ON are modems in the remote or customer area and the latter are modems in the central location)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 15, 30-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiese et al. (Wiese).

Regarding claims 4 and 15, Wiese teaches all subject matter claimed, as applied to claim 2 or 13. Wiese further teaches power cutback for power adjustment. (note col.7, lines 32-37) Although Wiese does not explicitly teach the cutback range of 0-30 dB, it would have been obvious to one skilled in the art at the time of the invention to implement as such since the range recited is commonly implemented in the art for power reduction. One skilled in the art would be motivated to reduce the power in the range of 0-30 dB for the purpose of adjusting the power to a suitable amount.

Regarding claims 30-32 and 34, Wiese teaches all subject matter claimed, as applied to claim 1, 12, 21 or 33. Although Wiese does not teach wherein the power level selection is based on previously stored priori power level estimates, it would have been obvious to one skilled in the art at the time of the invention to implement as such, since it would be more efficient to increase the level by a

predetermined level, which could have been previously tested for optimum results, rather than increasing the level by a minimal level (sending and waiting for response and repeating until detection of signal) causing undesired delay in establishing communication channel.

Allowable Subject Matter

5. Claims 18-20 would be allowable if rewritten to overcome the claim objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
6. Claims 7-10 and 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter:
Present application discloses establishing a connection between two transceivers or DSL modems in a low power mode by initially transmitting a signal from the first to the second transceiver in a low power and sequentially increasing the power level until the signal has been detected. Closest prior art, Wiese, teaches in the same field of endeavor, all the features explained. However, Wiese does not teach wherein a training parameter computed to determine the channel characteristic

includes transmitter characteristics, such as symbol timing, carrier frequency and carrier phase.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oafsson teaches training mode with adjustable power level.

Tzannes teaches multicarrier system comprising training parameters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn
1/21/04


YOUNG T. TSE
PRIMARY EXAMINER